

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method of supporting a handover decision in a wireless communication system comprising:

~~deriving a single time of arrival measurement each from a single source from a plurality of transmitting sources;~~

obtaining at least four time of arrival measurements for a subscriber station from at least four transmitting sources, wherein the at least four transmitting sources comprise known locations;

calculating initial x_1 , y_1 and z_1 coordinates and network time t_1 for the subscriber station;

calculating a next x_2 , y_2 and z_2 coordinates and network time t_2 for the subscriber station;

obtaining a velocity vector for an x component by $(x_2 - x_1)/(t_2 - t_1)$, a y component by $(y_2 - y_1)/(t_2 - t_1)$ and a z component by $(z_2 - z_1)/(t_2 - t_1)$;

obtaining a magnitude of the vector by $\sqrt{x^2 + y^2 + z^2}$;

obtaining an estimate of position of the subscriber stations from the next x_2 , y_2 and z_2 coordinates, velocity of the subscriber station from the obtained magnitude of the vector and direction of motion of the subscriber station from a direction of the vector ~~from the time of arrival measurements;~~ and

using the estimate, or information derived there-from, to support the handover decision.

2. (Original) The method of claim 1 wherein the obtaining step comprises:

retrieving a stored estimate and returning the retrieved estimate if sufficiently current to be accurate; and

deriving an updated estimate and returning the same if the retrieved estimate is insufficiently current to be accurate.

3. (Original) The method of claim 1 wherein the obtaining step is performed in response to a triggering event.

4. (Currently Amended) The method of claim 1 ~~and 3~~ wherein the triggering event comprises a determination that the handover rate of the subscriber station exceeds a threshold while the subscriber station is within the coverage area of an umbrella cell.

5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Original) The method of claim 3 wherein the triggering event is a timeout condition occurring while the subscriber station is within the coverage area of an umbrella cell.
9. (Original) The method of claim 8 wherein the timeout condition indicates the subscriber station has not experienced a handover within a prescribed period of time.
10. (Canceled)
11. (Canceled)
12. (Original) The method of claim 3 wherein the triggering event is a directed retry condition.
13. (Canceled)
14. (Currently Amended) The method of claim ~~12~~ 1 wherein the obtaining step comprises obtaining one or more estimates relating to the subscriber station.
15. (Canceled)
16. (Currently Amended) A system comprising one or more entities configured to perform ~~any of the methods of claims 1 to 15.~~
17. (Canceled)

18. (Currently Amended) A system for supporting a handover decision in a wireless communication system, the system comprising:

at least four transmitting sources for obtaining at least four time of arrival measurements for a subscriber station, wherein the at least four transmitting sources comprise known locations;

a means for calculating initial x_1 , y_1 and z_1 coordinates and network time t_1 for the subscriber station;

a means for calculating a next x_2 , y_2 and z_2 coordinates and network time t_2 for the subscriber station;

means for obtaining a velocity vector for an x component by $(x_2 - x_1)/(t_2 - t_1)$, a y component by $(y_2 - y_1)/(t_2 - t_1)$ and a z component by $(z_2 - z_1)/(t_2 - t_1)$;

means for obtaining a magnitude of the vector by $\sqrt{x^2 + y^2 + z^2}$;

means for obtaining an estimate of position of the subscriber stations from the next x_2 , y_2 and z_2 coordinates, velocity of the subscriber station from the obtained magnitude of the vector and direction of motion of the subscriber station from a direction of the vector; and

the system for supporting comprising one or more entities configured to derive a single time of arrival measurement, each from a single source from a plurality of transmitting sources; to obtain an the estimate of position, velocity or direction of motion of a subscriber station from the single time of arrival measurements; and use the estimate, or information derived there-from, to support the handover decision.

19. (Currently Amended) The system of claim 18 wherein the one or more entities are configured to obtain ~~an~~ the estimate of position, velocity or direction of motion of a the subscriber station by retrieving a stored estimate and returning the same if sufficiently current to be accurate; and deriving an updated estimate and returning the same if the retrieved estimate is insufficiently current to be accurate.

20. (Currently Amended) The system of claim 18 wherein the one or more entities are configured to obtain ~~an~~ the estimate of position, velocity, or direction of motion of a subscriber station in response to a triggering event.

21. (Original) The system of claim 20 wherein the triggering event comprises a determination that the handover rate of the subscriber station exceeds a threshold while the subscriber station is within the coverage area of an umbrella cell.

22. (Canceled)

23. (Canceled)

24. (Currently Amended) The system of claim 20 wherein the triggering event comprises a timeout condition indicating the subscriber station has not experienced a handover within a prescribed period of time while the subscriber station is within ~~the~~ a coverage area of an umbrella cell.

25. (Canceled)

26. (Original) The system of claim 20 wherein the triggering event is a directed retry condition.

27. (Original) The system of claim 20 wherein the one or more entities obtain one or more estimates relating the subscriber station responsive to the triggering event.

28. (Canceled)

29. (Original) The system of claim 18 wherein the one or more entities comprise a base station controller and a serving mobile location center.

30. (Original) The system of claim 18 wherein the one or more entities comprise a mobile switching center and a serving mobile location center.

31. (Canceled)